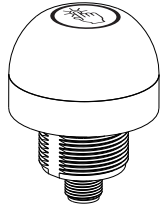


EZ-LIGHT® Touch Gen 2 K50 Series Illuminated Multipurpose Buttons



Datasheet

General Purpose Multicolor Indicator with Independent Momentary Touch Button Output



- Excellent immunity to false triggering by water spray, detergents, oils, and other foreign materials
- Rugged, cost-effective, and easy-to-install multicolor indicator with touch button
- Waterproof IP69K construction for washdown environments
- Three independent colors in one unit—Color 3 overrides Colors 1 and 2, Color 2 overrides Color 1
- Available with PNP and NPN inputs/outputs, depending on model
- Ergonomically designed to eliminate hand, wrist, and arm stresses associated with repeated switch operation; require no physical force to operate
- Can be actuated with bare hands or in gloves
- 12 V to 30 V dc operation



WARNING: Not To Be Used for Personnel Protection

Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition.

Models

| Model ¹ | I/O Type | Output State | Color 1 | Color 2 | Color 3 | Connection |
|--------------------|----------|--------------|---------|---------|---------|--|
| K50APT2GRYF2Q | PNP | N.O. | Green | Red | Yellow | Integral 8-pin M12/Euro-style male quick disconnect (QD) |
| K50RPT2GRYF2Q | | N.C. | | | | |
| K50ANT2GRYF2Q | NPN | N.O. | | | | |
| K50RNT2GRYF2Q | | N.C. | | | | |

Indicator and Output Behavior

Table 1: PNP Models

| Input Actions | | | | Touch Button Actions | | |
|-------------------------------|-----------------------------|--------------------------------|-------------|----------------------|-------------|-----------------------------|
| Input #1: Pin 3 Green Wire | Input #2: Pin 8 Red Wire | Input #3: Pin 4 Yellow Wire | LED Color | Output Type | Touch | Output: Pin 1 White Wire |
| Open or -Vdc | Open or -Vdc | Open or -Vdc | Light Off | N.O. | Not touched | PNP Output Off |
| +V dc | Open or -Vdc | Open or -Vdc | Color #1 On | | Touched | PNP Output On |
| +V dc | +V dc | Open or -Vdc | Color #2 On | N.C. | Not touched | PNP Output On |
| +V dc | +V dc | +V dc | Color #3 On | | Touched | PNP Output Off |
| Open or -Vdc | +V dc | Open or -Vdc | Color #2 On | | | |
| Open or -Vdc | +V dc | +V dc | Color #3 On | | | |
| Open or -Vdc | Open or -Vdc | +V dc | Color #3 On | | | |
| +V dc | Open or -Vdc | +V dc | Color #3 On | | | |

¹ Integral quick disconnect models are listed.

- To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, K50APT2GRYF2.
- To order the 150 mm (6 in) PVC cable model with an 8-pin Euro-style connector, replace the suffix "Q" with "QP" in the model number. For example, K50APT2GRYF2QP.
- Models with a quick disconnect require a mating cordset.



Table 2: NPN Models

| Input Actions | | | | Touch Button Actions | | |
|-------------------------------|-----------------------------|--------------------------------|-------------|----------------------|-------------|-----------------------------|
| Input #1: Pin 3 Green Wire | Input #2: Pin 8 Red Wire | Input #3: Pin 4 Yellow Wire | LED Color | Output Type | Touch | Output: Pin 1 White Wire |
| Open or +V dc | Open or +V dc | Open or +V dc | Light Off | N.O. | Not touched | NPN Output Off |
| -Vdc | Open or +V dc | Open or +V dc | Color #1 On | | Touched | NPN Output On |
| -Vdc | -Vdc | Open or +V dc | Color #2 On | N.C. | Not touched | NPN Output On |
| -Vdc | -Vdc | -Vdc | Color #3 On | | Touched | NPN Output Off |
| Open or +V dc | -Vdc | Open or +V dc | Color #2 On | | | |
| Open or +V dc | -Vdc | -Vdc | Color #3 On | | | |
| Open or +V dc | Open or +V dc | -Vdc | Color #3 On | | | |
| -Vdc | Open or +V dc | -Vdc | Color #3 On | | | |

Specifications

Supply Voltage

12 V to 30 V dc

Supply Current

< 75 mA max current at 12 V dc (exclusive of load)

< 50 mA max current at 30 V dc (exclusive of load)

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Rating

Maximum load: 150 mA

ON-state saturation voltage: < 2 V at 10 mA dc; < 2.5 V at 150 mA dc

OFF-state leakage current: < 10 µA at 30 V dc

Output Response Time

50 milliseconds On and Off

Environmental Rating

IEC IP67, IP69K per DIN 40050-9.

Cabled models also meet IP69K if the cable and cable entrance are protected from high-pressure spray.

Operating Conditions

-40 °C to +50 °C (-40 °F to +122 °F)

90% at 50 °C maximum relative humidity (non-condensing)

Power-Up Delay

300 milliseconds

Storage

-40 °C to +70 °C (-40 °F to +158 °F)

Construction

Housing: polycarbonate

Translucent dome: polycarbonate

Mounting nut: PBT

Vibration and Mechanical Shock

Vibration 10 Hz to 55 Hz 1.0 mm p-p amplitude per IEC 60068-2-6

Shock 30G 11 ms duration, half sine wave per IEC 60068-2-27

Certifications



Indicators

Color 1: Green

Color 2: Red

Color 3: Yellow

Indicator Lumens

| Color | Typical Wavelength | Typical Intensity (lm) |
|--------|--------------------|------------------------|
| Green | 525 nm | 29 |
| Red | 625 nm | 13 |
| Yellow | 591 nm | 24 |

Connections

8-pin integral Euro-style QD, 2 m (6.5 ft) PVC integral cable, or 8-pin 150 mm (6 in) Euro-style PVC cable QD

Mounting

M30 × 1.5 Threaded base Max torque 4.5 N·m (40 in-lbf)

Required Overcurrent Protection



WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

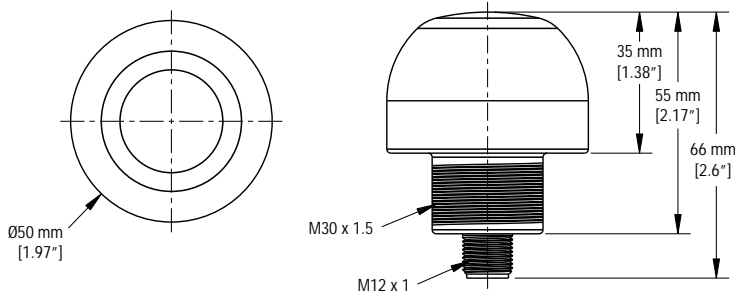
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to <http://www.bannerengineering.com>.

| Supply Wiring (AWG) | Required Overcurrent Protection (Amps) |
|---------------------|--|
| 20 | 5.0 |
| 22 | 3.0 |
| 24 | 2.0 |
| 26 | 1.0 |
| 28 | 0.8 |
| 30 | 0.5 |

Dimensions



All measurements are listed in millimeters [inches], unless noted otherwise.

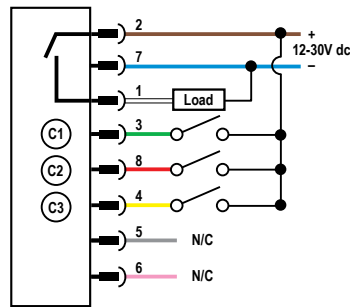
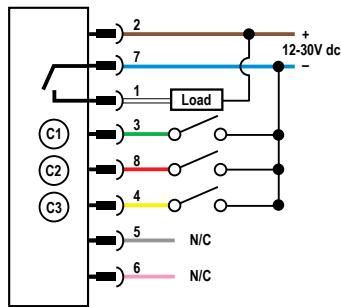
Wiring Diagram

NPN (Sinking) Output Models

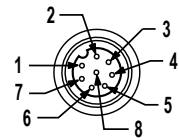
PNP (Sourcing) Output Models

Wiring Key

Pinout



- 1 = White
- 2 = Brown
- 3 = Green
- 4 = Yellow
- 5 = Gray
- 6 = Pink
- 7 = Blue
- 8 = Red



Accessories

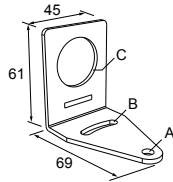
Cordsets

| 8-Pin Threaded M12/Euro-Style Cordsets with Open-Shield | | | | |
|---|----------------|-------------|------------|--|
| Model | Length | Style | Dimensions | Pinout (Female) |
| MQDC2S-806 | 1.83 m (6 ft) | Straight | | <ul style="list-style-type: none"> 1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red |
| MQDC2S-815 | 4.57 m (15 ft) | | | |
| MQDC2S-830 | 9.14 m (30 ft) | | | |
| MQDC2S-850 | 15.2 m (50 ft) | | | |
| MQDC2S-806RA | 1.83 m (6 ft) | Right-Angle | | |
| MQDC2S-815RA | 4.57 m (15 ft) | | | |
| MQDC2S-830RA | 9.14 m (30 ft) | | | |
| MQDC2S-850RA | 15.2 m (50 ft) | | | |

Brackets

SMB30A

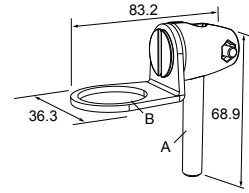
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (1/4 in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel



Hole center spacing: A to B=40
Hole size: A=ø 6.3, B= 27.1 x 6.3, C=ø 30.5

SMB30FA

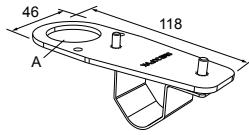
- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-ga. 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric and inch size bolt available



Bolt thread: SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50
Hole size: B= ø 30.1

SMB30FVK

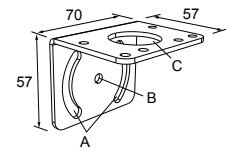
- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors



Hole size: A= ø 31

SMB30MM

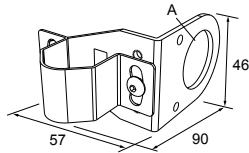
- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (1/4 in) hardware
- Mounting hole for 30 mm sensor



Hole center spacing: A = 51, A to B = 25.4
Hole size: A = 42.6 x 7, B = ø 6.4, C = ø 30.1

SMB30RAVK

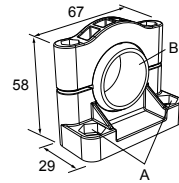
- V-clamp, right-angle bracket and fasteners for mounting sensors to pipe or extrusion
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors



Hole size: A = ø 30.5

SMB30SC

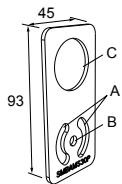
- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included



Hole center spacing: A=ø 50.8
Hole size: A=ø 7.0, B=ø 30.0

SMBAMS30P

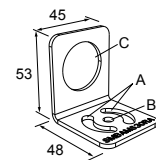
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90° + rotation
- 12-ga. 300 series stainless steel



Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

SMBAMS30RA

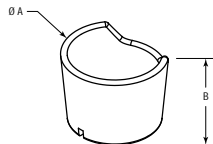
- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90° + rotation
- 12-ga. (2.6 mm) cold-rolled steel



Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

TC-K50-CL

- Touch cover



Diameter: A = 67 mm
Height: B = 42.5 mm

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